

IN THE CLAIMS:

1. (Currently amended) A method for detecting a toxicant ~~of interaction between two or more binding partners~~ in an aquatic, terrestrial, gaseous or industrial environmental sample wherein said toxicant binds a nucleic acid molecule, ~~wherein at least one of said binding partners is a nucleic acid molecule and is immobilized to a substrate comprising glass, polystyrene, polymethacrylate, cellulose, nylon, polyvinylchloride or polypropylene~~, said method comprising contacting ~~the immobilized nucleic acid molecule~~ with said sample putatively containing said toxicant with said nucleic acid molecule; and screening for either dissociation of binding between ~~a binding partner and said immobilized nucleic acid molecule~~ and a binding partner of said nucleic acid molecule, or inhibition of binding ~~a-of a binding partner to said immobilized nucleic acid molecule~~, wherein said dissociation or inhibition of binding is indicative of the presence of said toxicant.

2. (Cancelled)

3. (Currently amended) A method according to ~~Claim 1~~ any one of Claims 1, 35 or 36 wherein the toxicant is a heavy metal, a heavy metal ion, an organic compound or an organo-halide.

4. (Currently amended) A method according to ~~Claim 1~~ any one of Claims 1, 35 or 36 wherein said binding partner of said ~~immobilized~~ nucleic acid molecule comprises a protein or a nucleic acid molecule.

5. (Currently amended) A method according to Claim 4 wherein said binding partner of said ~~immobilized~~ nucleic acid molecule is an enzyme.

6. (Currently amended) A method according to Claim 4 wherein said binding partner of said ~~immobilized~~ nucleic acid molecule is a substrate of an enzyme.

7. (Currently amended) A method according to Claim 4 wherein said binding partner of said ~~immobilized~~ nucleic acid molecule comprises a sulfhydryl group.

8-10. (Cancelled)

11. (Currently amended) A method according to Claim + 37 wherein said substrate is polystyrene or polymethacrylate.

12-33. (Canceled)

34. (Currently amended) A method according to Claim 1 wherein said binding partner of said ~~immobilized~~ nucleic acid molecule comprises a dye.

35. (New) A method for detecting a toxicant in an aquatic, terrestrial, gaseous or industrial environmental sample wherein said toxicant binds a nucleic acid molecule, said method comprising contacting said sample putatively containing said toxicant with said nucleic acid molecule wherein said nucleic acid molecule is bound to a binding partner of said nucleic acid molecule; and detecting the dissociation of said binding partner from said nucleic acid molecule as indicative of the presence of said toxicant.

36. (New) A method for detecting a toxicant in an aquatic, terrestrial, gaseous or industrial environmental sample wherein said toxicant binds a nucleic acid molecule, said method comprising (a) contacting said nucleic acid molecule with a binding partner of said nucleic acid molecule and with said sample putatively containing said toxicant, and determining the amount of binding between said nucleic acid molecule and said binding partner in the presence of said sample; and (b) compare the amount determined in (a) to the amount of binding between said nucleic acid molecule and said binding partner in the absence of said sample, wherein a reduction of the amount in (a) relative to (b) is indicative of the presence of said toxicant in said sample.

37. (New) The method according to any one of Claims 1, 35 or 36, wherein said nucleic acid molecule is immobilized to a substrate comprising glass, polystyrene, polymethacrylate, cellulose, nylon, polyvinylchloride or polypropylene.